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(51) INT CL<sup>5</sup>

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US 5206903 A

(58) Field of Search

UK CL (Edition L ) H4K KFD KFH  
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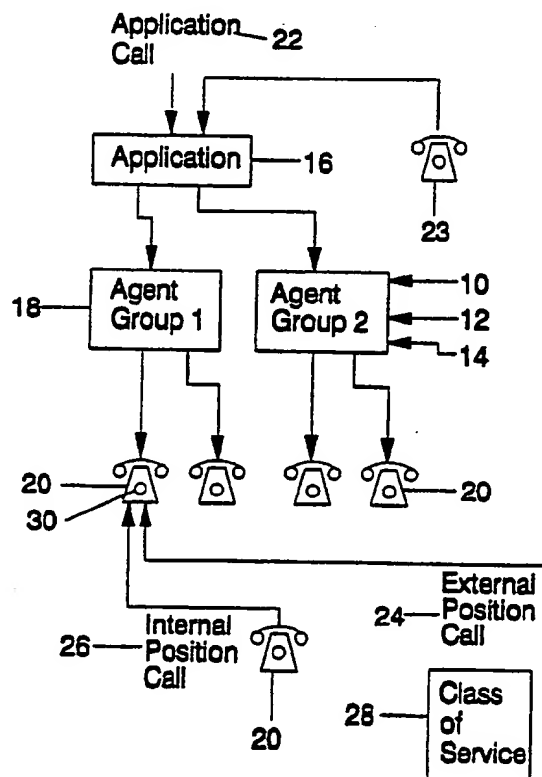
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## (54) Automatic call distributor with prioritization

(57) An automatic call distributor has a device 16 and 18 for routing application telephone calls to any agent 20, a device 10 for routing exterior position 24 and interior position 26 calls directly to a particular agent 20, the device 10 also determines the desired priority of the application, external position, and internal position calls to the particular agent 20, and connects the prioritized calls to the particular agent 20 in the determined priority.

Fig. 2

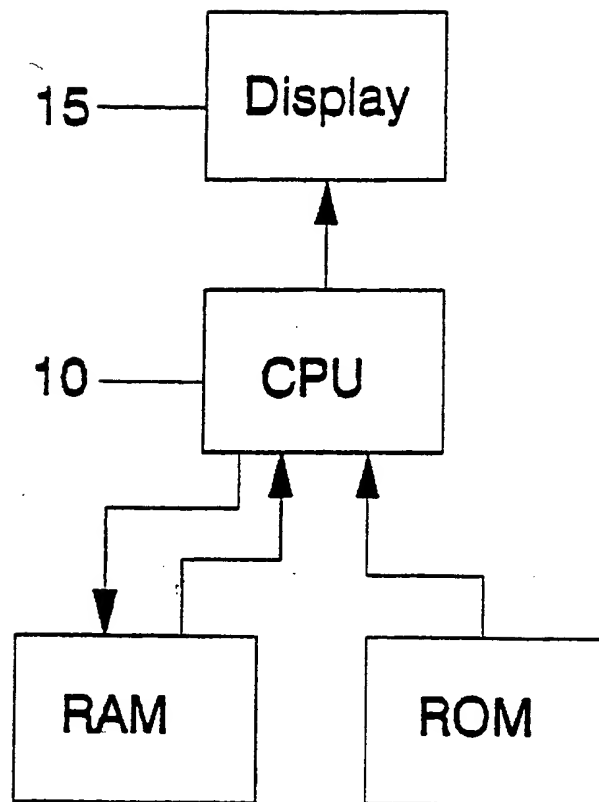


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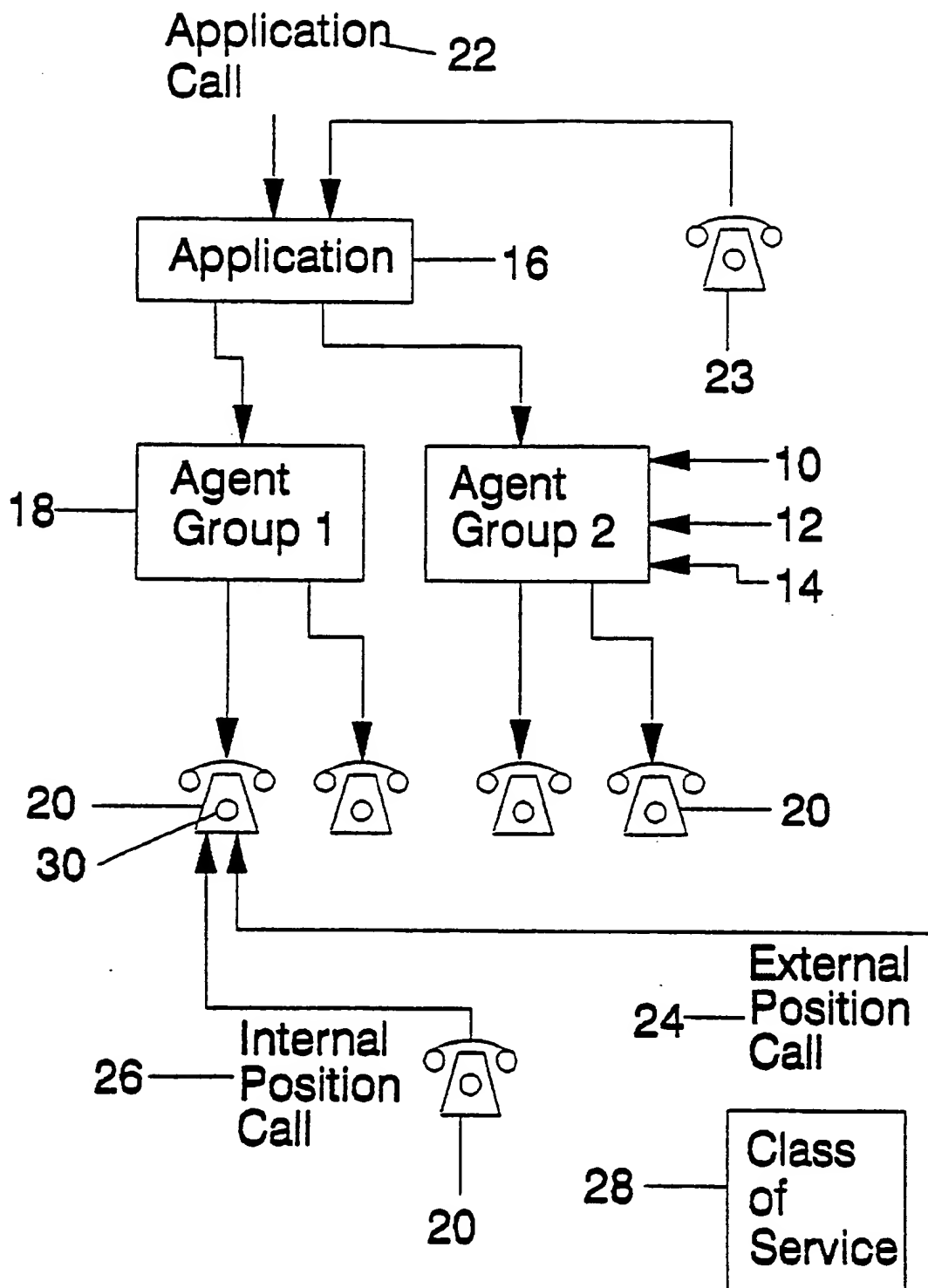
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Fig. 1



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Fig. 2



AUTOMATIC CALL DISTRIBUTOR WITH PRIORITIZATIONBACKGROUND OF THE INVENTION

The present invention relates to automatic calls distributors in a telephone system.

In the past, automatic call distributors (ACD) have been known to route calls to a number of agents in a telephone system. In such call distributors, the telephone system recognized application calls originating from the outside which are directed to any one of a plurality of agents on a basis when the agents are most available, and position calls which are made directly to a particular agent. However, no distinction has been made between position calls to the particular agent which originated outside the ACD and position calls which originated inside the ACD, nor were the position calls prioritized.

As a result, the agent may have to handle a plurality of low priority calls before handling calls of higher priority which should have been handled earlier, resulting in inconvenience to the callers and inefficiency of the system.

## SUMMARY OF THE INVENTION

A feature of the present invention is the provision of an improved automatic call distributor.

The distributor of the present invention comprises, means for routing an application telephone call to an available agent, means for routing an exterior position call directly to a particular agent, and means for routing an interior position call directly to a particular agent.

A feature of the present invention is the provision of means for determining a desired priority of the application, external position, and internal position calls to the particular agent.

Yet another feature of the invention is the provision of means for connecting the prioritized calls to the particular agent in the determined priority.

Thus, a feature of the invention is that the distributor distributes the calls in an improved manner.

Still another feature of the invention is that the distributor distributes the position calls with greater speed and efficiency.

Another feature of the invention is that the particular agent may handle the calls in a desired priority.

A further feature of the invention is that the user may select the priority of the application, exterior position, and internal position calls.

Thus, a feature of the invention is that the user has increased control over the telephone system in order to improve operation of the system.

Further features will become more fully apparent in the following description of the embodiments of this invention, and from the appended claims.

#### DESCRIPTION OF THE DRAWINGS

In the drawings:

Fig. 1 is a block diagram of a computer for use in an automatic call distributor of the present invention; and

Fig. 2 is a block diagram of the automatic call distributor of the invention.

## DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to Fig. 1, there is shown a computer or Central Processing Unit (CPU) generally designated 10 for an Automatic Call Distributor (ACD) generally designated 12 in a telephone system generally designated 14. The CPU or computer 10 has a Random Access Memory (RAM) and a Read Only Memory (ROM), and a suitable program is filled into the memory of the computer 10 in order to control the ACD. The CPU may have a suitable display 15 for monitoring various calls in the telephone system 14.

With reference to Fig. 2, the ACD has an application 16 to receive and direct application calls 22 originating outside or inside (by the telephone 23) the ACD to a plurality of agent groups 18, with the agent groups further directing the application calls to a plurality of agents 20 corresponding to each of the agent groups 18. In the usual form, the application calls are directed to any agent 20 who is idle to handle the call, and the application calls are also placed in a waiting line for handling for a particular agent until such time at which the agent 20 may handle the call, The internal and external position calls are also placed in a waiting line.

In addition, the telephone system 14 and ACD 12 may handle exterior position calls 24 which originate from

outside the ACD 12, and which are directed to a particular agent 20 handling the calls. The ACD 12 also handles interior position calls 26 which originate from one agent 20 within the ACD 12 to the particular agent 20. Thus, any agent 20 may receive an application call 22, an exterior position call 24, or an interior position call 26. Such calls are received and routed by the ACD 12 to the particular agent.

In accordance with the present invention, a priority may be assigned by the user in a table termed Class of Service 28 of the program in the computer 10 for the incoming application calls 22, the incoming exterior position calls 24, and the interior position calls 26. Either one of these types of calls may be assigned a first highest priority, another type of these calls may be assigned a second moderate priority, and the final type of these calls may be assigned a lowest priority. In this manner, the user may define the priorities of the calls to provide improved efficiency and speed of the ACD 12, and to verify that the various agents 20 are handling the particular calls in the desired priority and manner. The agents 20 may also have a suitable switch or toggle 30 to indicate to the computer 10 when the agent 10 is available or unavailable for receiving a call automatically.

The foregoing detailed description has been given for



clearness of understanding only, and no unnecessary  
limitations should be understood therefrom, as  
modifications will be obvious to those skilled in the art.

## CLAIMS

1. An automatic call distributor, comprising:

means for routing an application telephone call to an available agent;

means for routing an exterior position call directly to a particular agent;

means for routing an internal position call directly to the particular agent;

means for determining a desired priority of said application, external position, and internal position calls to the particular agent; and

means responsive to the determining means for connecting the prioritized calls to the particular agent in the determined priority.

2. The distributor of claim 1 wherein the exterior and internal position calls are placed in separate lines of incoming calls with a priority being separately assigned to the position calls dependent upon the line on which they are waiting.

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3. The distributor of claim 1 wherein the position calls are prioritized with respect to the application calls.

4. The distributor of claim 1 wherein the application calls are distributed to a plurality of agents.

5. The distributor of claim 1 including means for determining the availability of the particular agent.

6. The distributor of claim 1 including means for selecting the priority of the application, external position, and interior position calls.

7. An automatic call distributor substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

**Relevant Technical Fields**

- (i) UK Cl (Ed.L) H4K (KFD, KFH)  
(ii) Int Cl (Ed.5) H04M, H04Q

Search Examiner  
Mrs S J L Rees

Date of completion of Search  
25 October 1993

**Databases (see below)**

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

Documents considered relevant  
following a search in respect of  
Claims :-  
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(ii) ONLINE DATABASES : WPI

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Category	Identity of document and relevant passages	Relevant to claim(s)
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